ARIZONA STATE RETIREMENT SYSTEM

3300 NORTH CENTRAL AVENUE • PO BOX 33910 • PHOENIX, AZ 85067-3910 • PHONE (602) 240-2000
7660 EAST BROADWAY BOULEVARD • SUITE 108 • TUCSON, AZ 85710-3776 • PHONE (520) 239-3100
TOLL FREE OUTSIDE METRO PHOENIX AND TUCSON 1 (800) 621-3778
EMAIL ADDRESS: ASKMAC@AZASRS.GOV • WEB ADDRESS: WWW. AZASRS.GOV

Paul Matson
Director

AGENDA

NOTICE OF A PUBLIC MEETING OF THE ARIZONA STATE RETIREMENT SYSTEM (ASRS) INVESTMENT COMMITTEE

3300 North Central Avenue
14th Floor Conference Room
Phoenix, Arizona 85012

Monday, September 10, 2012
8:00 a.m.

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the members of the Arizona State Retirement System (ASRS) Investment Committee (IC) and to the general public that the ASRS Investment Committee will hold a public meeting September 10, 2012, beginning at 8:00 a.m., in the 14th Floor Conference Room of the Arizona State Retirement System office, 3300 North Central Avenue, Phoenix, Arizona. Trustees of the Committee may attend either in person or by telephone conference call.

This is a regularly scheduled meeting of the Investment Committee; however, due to possible attendance by other ASRS Board Trustees, this meeting may technically become a meeting of the Board. Actions taken will be consistent with Investment Committee governance procedures. Actions requiring Board authority will be presented to the full Board for final decision.

The Chair may take public comment during any agenda item. If any member of the public wishes to speak to a particular agenda item, they should complete a Request to Speak form indicating the item and provide it to the Committee secretary.

This meeting will be teleconferenced to the ASRS office in Tucson, 7660 E. Broadway Blvd., Suite 108, Tucson, AZ 85710. The conference call to Tucson will be disconnected after 15 minutes if there are no attendees in the Tucson audience.

The Agenda for the meeting is as follows:

1. Call to Order; Roll Call ....Mr. Tom Connelly
   Chair, Investment Committee

2. Presentation, Discussion, and Appropriate Action Regarding the Cortex Investment Management Program Governance Review and Consultant Utilization Review (Informational item; Estimated time 90 min. to 9:31 a.m.)
   ....Mr. Paul Matson
   Director, ASRS
   ....Mr. Tom Iannucci
   President, Cortex Applied Research

3. Requests for Future Agenda Items (Informational item; Estimated time 1 min. to 9:32 a.m.)
....Mr. Tom Connelly
....Mr. Gary Dokes
Chief Investment Officer, ASRS

4. Call to the Public ....Mr. Tom Connelly

Those wishing to address the ASRS Committee are required to complete a Request to Speak form before the meeting indicating their desire to speak. Request to Speak forms are available at the sign-in desk and should be given to the secretary. Trustees of the Committee are prohibited by A.R.S. § 38-431.01 (G) from discussing or taking legal action on matters raised during an open call to the public unless the matters are properly noticed for discussion and legal action. As a result of public comment, the Committee may direct staff to study and/or reschedule the matter for discussion and decision at a later date.

Adjournment of the ASRS Investment Committee Meeting. The next ASRS Investment Committee Meeting is scheduled for Monday, October 15, 2012.

A copy of the agenda background material provided to Committee Trustees (with the exception of material relating to possible executive sessions) is available for public inspection at the ASRS offices located at 3300 North Central Avenue, 14th Floor, Phoenix, Arizona, and 7660 East Broadway Boulevard, Suite 108, Tucson, Arizona. The agenda is subject to revision up to 24 hours prior to meeting. These materials are also available on the ASRS website (https://www.azasrs.gov/web/BoardCommittees.do) approximately 48 hours prior to the meeting.

Persons with a disability may request a reasonable accommodation such as a sign language interpreter or alternate formats of this document by contacting Tracy Darmer, ADA Coordinator at (602) 240-5378 in Phoenix, at (520) 239-3100, ext. 5378 in Tucson or 1-800-621-3778, ext. 5378 outside metro Phoenix or Tucson. Requests should be made as early as possible to allow time to arrange the accommodations.

Dated September 3, 2012

ARIZONA STATE RETIREMENT SYSTEM

Chasity Byrd, Secretary	Date	Gary Dokes, Chief Investment Officer	Date

ARIZONA STATE RETIREMENT SYSTEM

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Paul Matson
Director

MEMORANDUM

TO: The Arizona State Retirement System (ASRS) Investment Committee (IC)

FROM: Mr. Paul Matson, Director
Mr. Gary R. Dokes, Chief Investment Officer

DATE: September 3, 2012

RE: **Agenda Item #2:** Presentation, Discussion, and Appropriate Action Regarding the Cortex Investment Management Program Governance Review and Consultant Utilization Review

Purpose

To receive and discuss a presentation by Cortex regarding Investment Management Governance.

Recommendations

Informational only; no action required.

At its discretion, the IC may engage Cortex staff and/or the ASRS Director and ASRS Chief Investment Officer.

At its discretion, the IC may provide comments and perspective on the report, to be considered for inclusion before presentation to the full Board.

Background

The September 21, 2012 Board meeting will predominantly focus on strategic ASRS issues, with one specific agenda item dedicated to governance. This September 21 Board governance agenda item will cover an 'internal audit agency governance review,' a prior 'Cortex survey' on investment governance the ASRS participated in, and the current 'Cortex Investment Management Program Governance Review and Consultant Utilization Review (Report).' Before Cortex presents their 'Cortex Investment Management Program Governance Review and Consultant Utilization Review (Report)' to the full Board on September 21, the Investment Committee will have the opportunity to review the report and determine if it has any additional comments or requests any further research.

With respect to the 'Cortex Investment Management Program Governance Review and Consultant Utilization Review (Report),' the Arizona State Retirement System retained Cortex Applied Research Inc. (Cortex) to conduct an independent review and evaluation of various aspects of its investment management program including delegation of authority, decision-making, policies and oversight, and investment consultant utilization. As a result of the review, Cortex identified a number of strategic findings and recommendations, as well as secondary findings and recommendations.

The strategic findings in the presentation relate to: Independence and Autonomy, Delineation of Authority, Strategic Planning and Review of Governance Program.

Attachments:

From Cortex Applied Research

- Investment Management Program Governance Review and Consultant Utilization Review (PowerPoint Presentation) – August 2012
- Investment Management Program Governance Review and Consultant Utilization Review (Report) – August 2012
- NAPPA Report

Agenda Item #2

Investment Management Program:
Governance Review & Consultant Utilization Review

Presentation to the Investment Committee
September 10, 2012

By: Tom Iannucci
Cortex Applied Research Inc.

CORTEX Applied Research Inc.

CORTEX

Agenda

- Project Objectives
- Good Governance: Background
- Best Practices
  - Procedural criteria
  - Best practices criteria
- Cortex Findings & Recommendations:
  - Positive Findings
  - Strategic Findings
  - Secondary Findings
  - Summary of Recommendations
- Questions & Discussion

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Project Objectives

ASRS retained Cortex to:

- Review the investment-related governance practices of the System relative to industry *best practices*.
- Identify strengths and weaknesses of ASRS's current governance model.
- Provide recommendations for further improvement.

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About Cortex

- A management consulting firm founded in 1991 and specializing in helping public and private sector pension organizations develop and implement best practices concerning governance and decision-making.
- We have worked with almost 200 different pension systems across North America (public sector/ corporate/DB/DC).
- Highly independent with no commercial ties to financial institutions or investment consulting firms.

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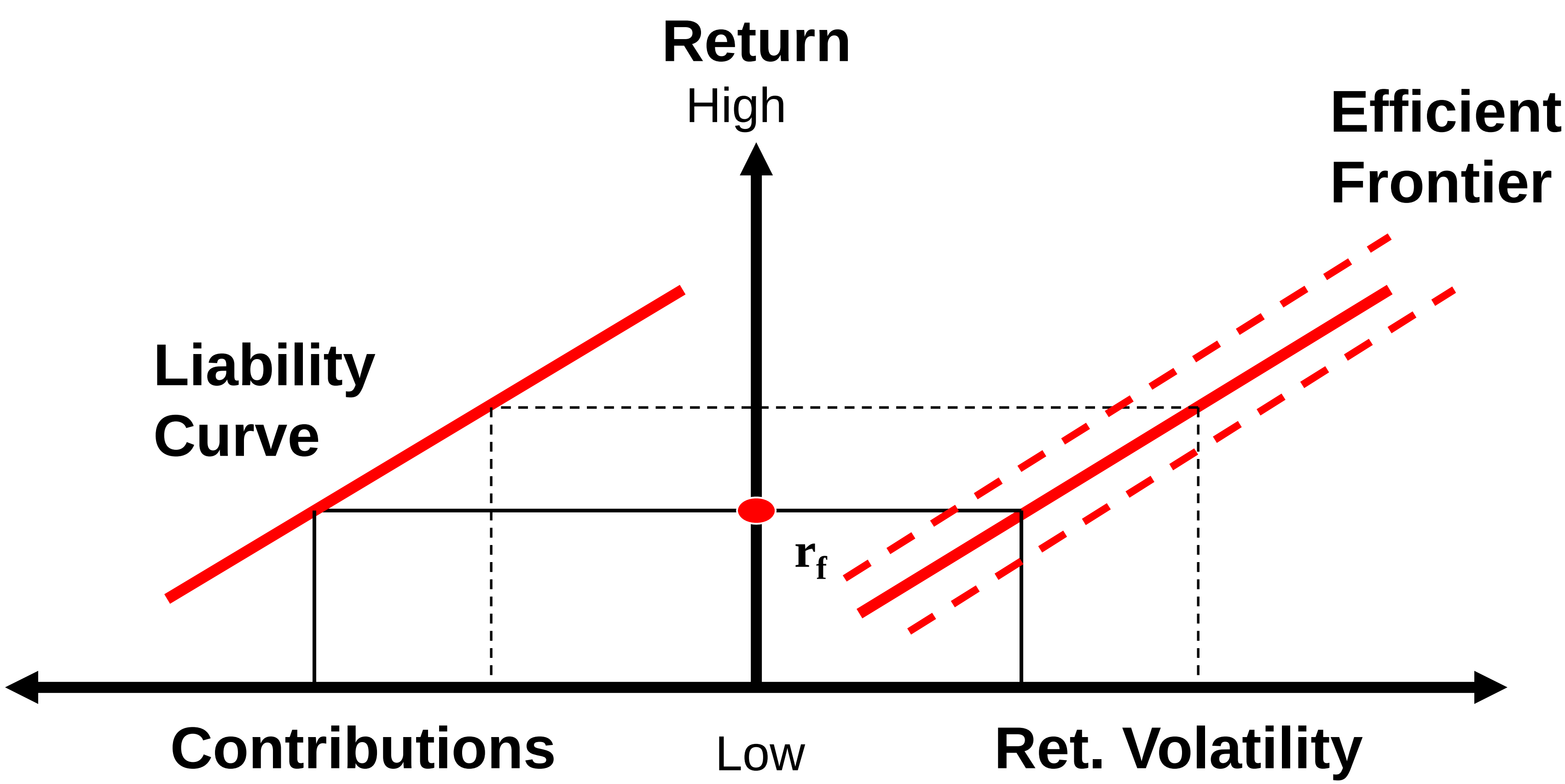
Good Governance: Background

The Pension Management Business: An Overview



Source: "Managing Risk, Return, and Pension Plan Profitability", John Ilkiw, Canadian Investment Review, Spring 1989

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Fiduciary Duties

Loyalty to the interests of the beneficiaries as a group; prudence in managing the beneficiaries' property.

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Roles of Board & Staff: An Overview

- Role of the Board is risk management:
  - Define risks and risk tolerance
  - Set policies to manage material risks
  - Establish organizational infrastructure
  - Oversight
- Role of staff is performance maximization:
  - Support the Board through policy analysis
  - Implement policy
  - Maximize performance subject to Board constraints

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Good Governance Practices

(A) Important & Not Urgent	(B) Important & Urgent
(C) Not Important & Urgent	(D) Not Important & Not Urgent

Source: Stephen Covey, 7 Habits of Highly Effective People

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Linking Investments & Governance

- A successful investment program:
  - is based on a strong philosophy regarding the long-term goals of the program and the long-term behaviour of capital markets.
  - Requires a stable, supportive governing board:
    - Knowledgeable fiduciaries
    - Fortitude to withstand short-term bumps in the investment performance of the fund
    - Confidence to delegate operational matters to staff
    - Ability to design reporting systems for oversight
- Estimated value added by good governance is 100 – 300 bps.

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Best Practice Criteria

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Governance Review Criteria

Many criteria have evolved in recent years concerning effective pension governance practices

- Procedural/process criteria
- Peer practices
- Best practices criteria

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Procedural Criteria – Published Standards

Various bodies around the world have published pension governance guidelines:

- Clapman Report (Stanford Institutional Investors’ Forum)
- GFOA Governance Guidelines
- OECD Governance Guidelines
- Model US pension laws (UPIA and UMPERSA)
- CAPSA Guidelines

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Published Standards

- Generally cover the following types of issues:
  - Autonomy
  - Roles should be documented
  - Need for written policies
  - Various guidelines concerning the nature of ethics policies
  - Need for board education
  - Need to evaluate the Executive Director
  - Disclosure practices
- With the exception of autonomy and disclosure practices, the guidelines are quite general in nature.
- The published standards are also not typically performance-focused.

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Published Standards: Weaknesses

- Relatively more emphasis on the “form” of governance
  - Example: They specify the need to document roles but are silent on substance; i.e. what is the appropriate delineation of roles between the Board, staff, and advisors?
- Relatively more emphasis on ethics and disclosure as opposed to performance and organizational success.
- Susceptible to a “check-the-box” mindset

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Best Practices Criteria

Best practice criteria are more performance focused:

- An autonomous & independent organization.
- A professional and knowledgeable board.
- A high-calibre board staff that is expected to provide leadership for the investment program.
- Competitive staff compensation.
- A meaningful incentive compensation program.
- Robust organizational infrastructure capable of managing an effective/low-cost inv. program.
- A focus on strategic planning & risk management.
- A recognition of the importance of a sound investment philosophy or beliefs.

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Best Practices: Underlying Assumptions

- Accountability for performance requires authority & resources
- Pension investments should be viewed as a business
- The quality of the board is crucial
- Top talent is scarce
- Incentive compensation impacts performance
- One should employ a “build vs. buy” analytical mindset

ASRS Governance Review:
Findings & Recommendations

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ASRS

- Cortex performed a fiduciary benchmarking analysis for ASRS in 2009 relative to published standards and US public system peers.
- ASRS scored well in our analysis:
  - ASRS was either consistent with or exceeded the published standards and peer practices on most issues.
- ASRS retained Cortex in 2012 to consider the investment governance practices of the System from a *best practices* perspective.

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Best Practices Review of ASRS: Summary of Findings

Numerous positive findings including:

1. Comprehensive Board Governance Policy Handbook which is clearly a living document:
    - describes the roles of key parties.
    - Considerable effort to distinctly delineate the roles of the Board and staff
    - Transparency provides by board member representation on ACC
    - Safeguards include ability for board members to elevate an investment decision from an ACC to the Board or IC.
    - Strong reporting that ties investment performance to investment objectives and that includes clear performance attribution.

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Positive Findings (cont'd)

2. Strong education program:
   - Sound education policy
   - Good new trustee orientation
   - In-house continuing education
   - Access to external education
   - Strong trustee satisfaction
3. Investment policy includes investment beliefs.
4. Strong commitment to strategic planning.
5. Robust Director performance evaluation process/policy
6. Commitment to regular review of governance policies and practices.

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Strategic Findings & Recommendations

- Autonomy
- Delineation of Authority
- Strategic Planning
- Review of Governance Program

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Autonomy

1. ASRS currently lacks autonomy over key aspects of its operations:
   - Procurement policy
   - Operating budget
   - Legal services
   - Personnel and compensation

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Delineation of Authority

2. There continues to be a lack of clarity in the decision structure, concerning roles of the Board and staff in selecting investment managers.

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Current Decision Structure: Key Elements

Board
- Approves Investment Policy
- Appoints General Investment Consultant

Investment Committee
- Recommends Investment Policy
- Recommends appointment of General Investment Consultant

Asset Class Committee
- Authority to select Investment Managers and Asset Class Consultants subject to joint approval of Director and CIO

ACC Composition

Voting Members
- Director, CIO & Investment Staff

Non-Voting Members
- Several Trustees
- Asset Class Consultant

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Strengths of Current Structure

a) Recognizes need to distinguish between the roles of the Board and staff in manager selection.
   - Assigns responsibility for manager selection (an operational function) to staff
   - Board and Investment Committee are intended to focus on oversight

b) Designed to be transparent, as several board members serve on ACC in non-voting capacity

c) Designed to ensure multiple sources of expertise and independent perspectives.

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Weaknesses of Current Structure

a) Appointment of trustees to the ACC significantly detracts from separation of board & staff roles:

- Rather than overseeing the staff decision process, trustees on the ACC will inevitably influence decisions regarding manager selection, thus diluting staff accountability for the operations of the System.
  - Interview findings were consistent with above.
- Diverts Board attention and focus from *oversight* of the selection process:
  - Understanding and enhancing the selection process and criteria
  - Monitoring compliance.

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Weaknesses (cont'd)

b) Role of the non-voting consultants on the ACC is also unclear:
   - b) Extension of staff?
   - c) Oversight mechanism for the Board?

c) Inclusion of trustees on ACC invariably affects ability to meet when needed, due to scheduling and related issues.

d) The lack of clear accountability and authority over manager selection may impede long-term staff recruitment and retention.

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Strategic Planning

a) While ASRS has a well-developed strategic planning process, it does not address the investment program in a meaningful way.

- The Plan only restates the investment objectives contained in the IPS.
- The Plan does not address:
  - The Vision or type of investment organization ASRS wishes to build.
  - The challenges and risks that need to be overcome.
  - The steps or strategies necessary to achieve the Vision.

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Governance Review

- We commend ASRS for its commitment to a formal board governance program.
- Our review indicated however that ASRS recently may be revisiting its governance practices more often than necessary, particularly roles in manager selection.

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Secondary Findings – Policy Framework

a) Governance policies are contained in multiple documents, which may lead to conflicting policy revisions and formats.

b) Cortex identified gaps in policies:

- Party responsible for portfolio structure:
  - Number of managers, internal versus internal management, strategic portfolio biases.
- Party responsible for selecting and appointing third party experts to value real estate investments.

c) Board does not approve risk parameters for securities lending program.

d) Policy provisions concerning communications are set out in various policies.

e) ASRS's whistle-blower practices are not set out in a governance policy.

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Secondary Findings – Policy Framework
(cont'd)

f) Investment Policy Statement coverage on use of leverage/derivatives or currency management could be expanded.

g) Current policy does not require staff to provide the Board with reporting on investment transaction costs.

h) Possible conflicting policy language regarding responsibility for selecting investment consultants.

i) Director Evaluation Policy does not reflect current practice of obtaining input into the evaluation from sources other than board members.

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Summary of Recommendations

1. Expand strategic planning process to more directly address the investment program and set out a vision for the investment program:
   - Autonomy from plan sponsor
   - Investment personnel
   - Compensation
   - Use of consultants
2. Modify roles and responsibilities concerning manager selection to further clarify staff responsibility for selection decisions and a clearer Board focus on oversight:
   - Trustees no longer to serve on ACCs.
   - ACC investment consultants should be clearly designated as staff–extension consultants.
   - Implement additional safeguards noted in main Report to ensure prudent delegation of authority for manager selection to staff by the Board.

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Key Safeguards

- ACC must prepare manager selection and termination policies.
- Board must approve above policies, periodically review them.
- Above policies would be subject to periodic audits by expert third-party(ies).
- IC and the Board to confirm compliance with the policies via independent confirmation by Internal Auditor and external financial auditor.
- Selection decisions of investment managers by ACC would be subject to General Investment Consultant to review process followed by ACC and would provide independent opinion of the prudence of the process.

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Key Safeguards (cont'd)

- General Investment Consultant to:
  - Continue to be selected by the Board.
  - Continue to review the strategic direction and management of the Fund and advise the Board on its reasonableness.
- All manager contracts would continue to be subject to legal review.
- Board and IC would continue to be provided the agendas of ACC meetings and have ability to elevate an ACC decision to the Board or IC.
- Board and IC to receive quarterly reports on activities and decisions of ACCs.
- Board may also establish upper dollar limits to ACCs' authority to hire managers or make investments.

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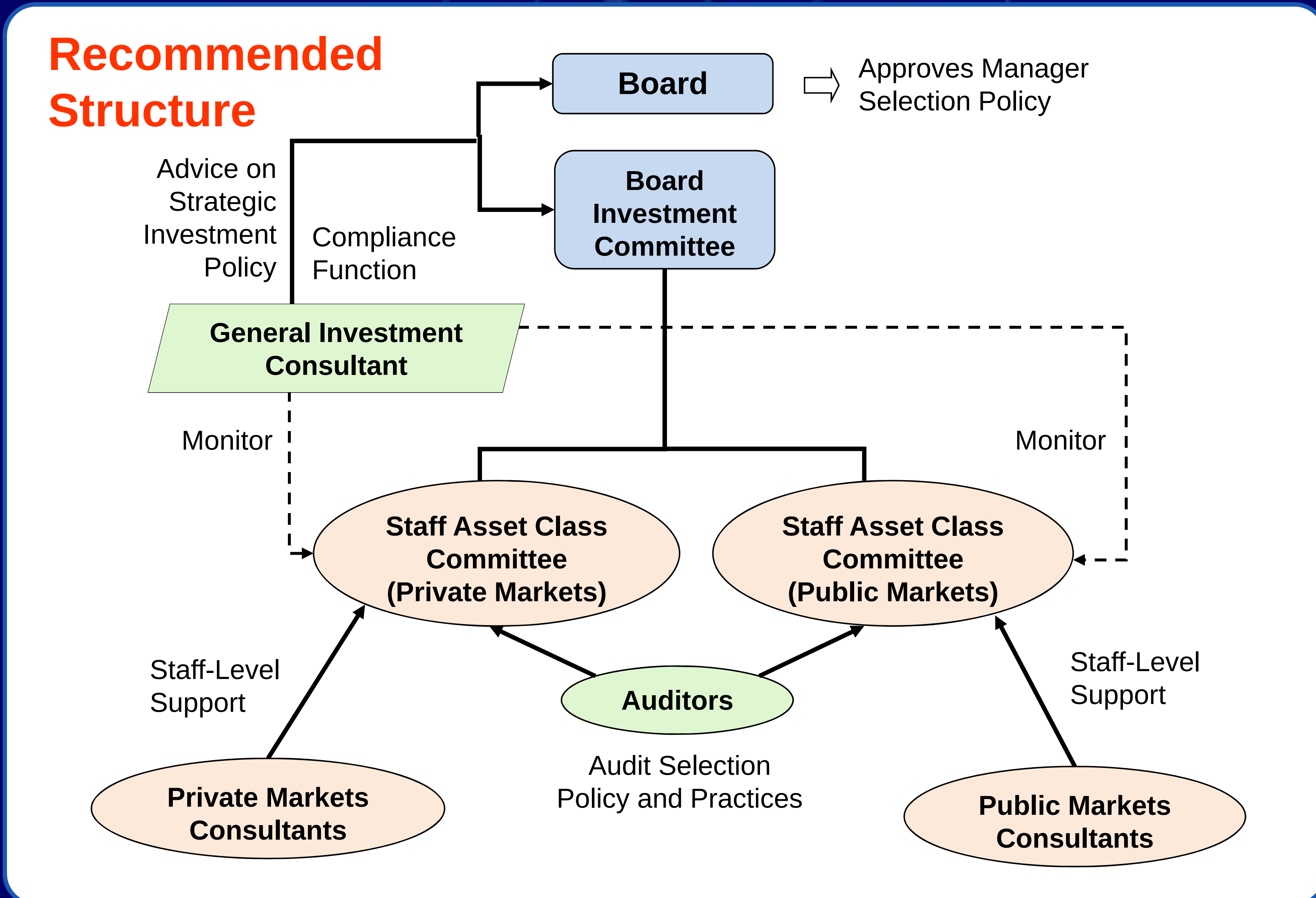
Recommended Structure



Summary of Recommendations (cont'd)

3. Change requirement to review governance policies annually to every three years.
4. Consolidate all governance-related policies into a single volume.
5. Address policy gaps noted in our findings.
6. Establish an investment cost reporting policy defining the costs to be reported to the Board.

Summary of Recommendations (cont'd)

8. Continue to expand the investment risk management framework by:
   - Articulating ASRS philosophy on risk management.
   - Further defining the risks to be measured/ managed
   - Defining the Board's risk appetite & associated parameters.
9. Consider expanding the Board education program:
   - Address the service provider selection process and criteria
   - Address decision-making theory
   - Continue to emphasize the topic of fiduciary duty
   - Develop a multi-year education plan
10. Amend Director Evaluation Policy to reflect current practice of gaining input from non-board members.

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Questions & Discussions

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Investment Management Program Governance Review and Consultant Utilization Review

Draft Report

Prepared for the
Arizona State Retirement System

August 2012
Prepared by Cortex Applied Research Inc.

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**DRAFT **
August 15, 2012

EXECUTIVE SUMMARY

The Arizona State Retirement System (ASRS or the Agency) retained Cortex Applied Research Inc. (Cortex) to conduct an independent review and evaluation of various aspects of its investment management program including delegation of authority, decision-making, policies and oversight, and investment consultant utilization. As a result of the review, Cortex identified a number of strategic findings and recommendations, as well as secondary findings and recommendations.

Overall, Cortex identified numerous positive findings concerning the investment-related governance practices of ASRS, including:

1) ASRS has developed a comprehensive Board Governance Policy Handbook, which describes the roles of the Board, trustees, the Director, the Board officers, the Board's standing committees, the internal auditor, and the management-level asset class committees. Consistent with best practices, ASRS has devoted considerable effort to maintaining a clear distinction between the role of the Board and the role of staff with respect to investment decisions. For example, the Board has devoted particular attention to delineating duties concerning investment managers and consultants, such that staff is responsible for selecting and terminating investment managers and asset class consultants, and the Board is responsible for appointing the general investment consultant, setting investment policy, and providing oversight.

2) ASRS has designed the current investment decision-making structure to be highly transparent. For example, the Board assigns several board members to serve on asset class committees in a non-voting capacity. This structure is intended to help the Board maintain an awareness of staff's investment decision process, although as we suggest later in this report, there may be more effective ways of providing such transparency.

3) ASRS has designed various safeguards designed to promote staff accountability and support effective Board oversight. For example, any trustee may request that a decision coming before a staff asset class committee be instead elevated to the Investment Committee or the Board for review.

4) ASRS has developed investment performance reporting that directly relates to the Board's six investment program investment goals. Furthermore, and consistent with best practice, the Board is provided with attribution analysis that enables the Board to clearly understand which investment decisions have added or detracted value from the Fund.

5) ASRS has developed a strong board education program as evidenced by the following:
   a) The ASRS has established a sound board education policy, which contains key provisions that are consistent with best practices. These include provisions dealing with, among other things, the educational topics to be addressed, new trustee orientation, and a requirement that staff arrange at least one annual fiduciary education session.
   b) Our discussions with board members found a strong level of satisfaction with the orientation process, ongoing in-house education, and access to external education.

6) ASRS has developed a strategic planning process that is consistent with common industry practices The strategic planning process occurs over a three-year time frame, which we believe is appropriate, and incorporates input from trustees, management, staff, and plan members. The resulting strategic

plan contains a useful mix of inspirational statements and concrete goals and objectives. Equally important, the Plan recognizes that the core mission of ASRS is largely contained in statute and that ASRS therefore has limited direct control over it.

7) Consistent with best practices, the Board annually evaluates the performance of the Director in accordance with a process that is set out in a Board policy. The evaluation process uses both objective and subjective evaluation criteria and also includes input from sources beyond only the Board. ASRS's approach exceeds that of many other public retirement systems.

8) ASRS clearly recognizes the need to maintain effective governance practices over time and has demonstrated a strong commitment to regularly reviewing, benchmarking, and updating its governance policies and structures.

In addition to the above findings, Cortex identified a number of strategic findings and recommendations, which we believe may have a significant impact on the long-term success of the ASRS investment program. They include the following:

1) *Independence and Autonomy*: ASRS currently lacks independence and autonomy over key aspects of its operations such as the authority to approve procurement policy, approve the Agency's operating budget, and obtain independent legal services. The Agency has also historically been constrained with respect to personnel and compensation matters. These constraints are likely to become more severe, as legislation is currently being considered that may shift partial control of personnel and compensation matters to the Department of Administration. Cortex believes such a shift would represent a significant setback for the Agency and threatens its long-term success.

2) *Delineation of Authority*. ASRS has attempted to establish a governance structure in which the Board is responsible for macro-level investment policy and oversight and staff is accountable for managing the investment operations including the selection of investment managers. ASRS has also attempted to ensure that investment consultants are available within the governance structure to provide additional expertise and independence. Our review found that the above goals have not been fully met due to the fact that the governance structure requires trustees and consultants to serve with investment staff on the Asset Class Committees responsible for selecting investment managers. Furthermore, we found that the governance structure could more clearly distinguish between those consultants who serve as extensions of staff and those who serve to monitor compliance with investment policy and procedure.

3) *Strategic Planning*. While ASRS has developed a strong strategic planning process, it does not address the investment program apart from re-stating the investment objectives contained in the Agency's statement of investment policy. The Strategic Plan does not describe a vision of the type of investment organization ASRS intends to build over time to meet its investment objectives, nor the challenges and risks that must be overcome. The Strategic Plan could also serve as an effective vehicle for identifying and addressing any challenges involving board autonomy and independence (see 1 above).

4) *Review of Governance Program*. Cortex found that ASRS may be revisiting its governance practices more often than necessary, particularly the manager selection process and the roles of investment

consultants. Excessive discussion of one's governance policies and practices diverts time and attention from other important investment issues, may lead to fatigue among board and staff members, and may create a sense uncertainty among board and staff members as to whether there is widespread support for the current roles and responsibilities.

Cortex's strategic recommendations are summarized below:

a) ASRS should expand its strategic planning process to more directly address the investment program. The Strategic Plan could potentially address issues involving investment personnel and compensation practices, the use of investment consultants, and the need to address issues of independence and autonomy.

b) ASRS should no longer require trustees and consultants to serve on Asset Class Committees, thus further clarifying that staff are responsible and accountable for the selection of investment managers. We recommend various other safeguards be put in place to provide the Board with assurances that investment manager selection decisions are being made in accordance with board policy and established procedures. Such safeguards include, among other things, establishing a manager selection policy and requiring the General Investment Consultant to monitor that the policy is being implemented.

c) The ASRS Governance Policy Manual requires that governance policies be reviewed annually. We recommend that the frequency be changed to at least every three years. Furthermore, we recommend that the Board minimize the extent to which it revisits the governance structure between formal reviews. This will allow the Board and staff to better determine how effective the structure is operating, and would allow the Board and staff to focus on other important matters.

Cortex also identified a number of secondary findings and recommendations, which are contained in the main body of our report.

REPORT OF FINDINGS

The Arizona State Retirement System (ASRS or the Agency) retained Cortex Applied Research Inc. ("Cortex") to review the investment-related governance practices of ASRS and to provide findings and recommendations for further improvement. More specifically, the ASRS sought an independent review and evaluation of various aspects of its investment management program including delegation of authority, decision-making, policies and oversight, and investment consultant utilization.

METHODOLOGY

In completing the assignment Cortex:

- Invited all current board members and one former board member to participate in a telephone interview to discuss their views concerning ASRS's governance practices. Seven individuals responded and participated in such interviews.
- Cortex interviewed the Director, the Chief Investment Officer (CIO), and three senior portfolio managers of ASRS.
- Cortex interviewed the General Investment Consultant, Private Equity Consultant, and two Real Estate Consultants to the Agency.
- Cortex reviewed ASRS's governance policies, investment policies, strategic investment plans, and other related documentation.
- Cortex contacted a number of other public retirement systems in the United States and Canada to obtain information about their governance practices.

Please see Appendix A for the names of the individuals interviewed.

In addition, Cortex consulted data on the practices of other public retirement systems as well as governance guidelines issued by recognized bodies around the world including:

- The Committee on Fund Governance Best Practice Principles, issued by the Stanford Institutional Investor's Forum (the "Clapman Report").
- Governance of Public Employee Post-Retirement Benefits Systems, issued by the Government Finance Officers Association. (the "GFOA Governance Guidelines")
- OECD Guidelines for Pension Fund Governance, issued by the OECD Working Party on Private Pensions (the "OECD Governance Guidelines").
- Canadian Association of Pension Supervisory Authorities' (CAPSA) Pension Governance Guidelines.
- Model laws established by the National Conference of Commissioners on Uniform Laws, including The Uniform Prudent Investor Act (UPIA), 1994 and The Uniform Management of Public Employees Retirement Systems Act (UMPERSA), 1997.

This review does not constitute an audit of the investment practices or operations of ASRS.

OVERVIEW OF FINDINGS

Part I of our report contains strategic findings we consider to be most important to ASRS's ability to carry out its mission and investment objectives. We believe these findings are interrelated and include:

1. The independence and autonomy of ASRS.
2. The delineation of authority within ASRS.
3. The strategic planning process as it relates to the investment program.
4. The Board's approach to reviewing its governance policies and practices.

Part II of our report contains secondary findings and recommendations.

PART I – STRATEGIC FINDINGS & RECOMMENDATIONS

A) INDEPENDENCE & AUTONOMY

A fundamental aspect of a public retirement system's governance structure is the autonomy and authority the system has relative to the plan sponsor (in the case of ASRS the sponsor is the State of Arizona). Though most published governance standards are silent on this issue, model laws developed in the United States provide some guidance on the matter.[1] They recommend that a governing board of a public retirement system should be highly independent of the plan sponsor and should have exclusive authority to:

1. Manage the assets of the system;
2. Establish the operating budget of the system;
3. Approve human resource and compensation matters, including the hiring of personnel and setting of compensation;
4. Make procurement decisions; and
5. Retain advisory and other services.

In setting out the rationale for granting governing boards a high degree of independence, the model laws state that:

> "Independence is required because it permits trustees to perform their duties in the face of pressure from others who may not be subject to such obligations. In the absence of independence, trustees may be forced to decide between fulfilling their fiduciary obligations to participants and beneficiaries or complying with the directions of others who are responding to a more wide-ranging (and possibly conflicting) set of interests."[2]

Unfortunately, U.S. public retirement systems tend not to have complete independence and autonomy. Most systems generally have the authority to hire their own chief executive officer and staff, set actuarial assumptions, determine required contributions, and hire certain advisors (typically actuaries, investment

[1] *The Uniform Prudent Investor Act* (UPIA), 1994 and *The Uniform Management of Public Employees Retirement Systems Act* (UMPERSA), 1997.
[2] *The Uniform Management of Public Employees Retirement Systems Act* (UMPERSA), Section 5: Power of Trustees, Comments section.

consultants, and investment managers). On the other hand, U.S. pubic retirement systems commonly lack full authority in the following areas:

- Hiring of financial auditors or legal counsel
- Hiring staff and determining compensation and incentive payments and programs
- Approval of the operating budget

Table 1 summarizes research findings concerning the independence and autonomy of 25 U.S. public retirement systems (including state, county, and municipal systems).

TABLE 16: GOVERNING AUTHORITY AND CONSTRAINTS	
With respect to investments:	**Peer Group**
The System has complete authority to set investment policy and invest the assets of the System as it deems appropriate	15
The System must comply with certain investment restrictions established in law by the Plan Sponsor	10
With respect to budget authority:	
The System has authority to approve its own operating budget without the approval of the Plan Sponsor (i.e. Legislature, Board of Supervisors, etc.)	16
The System's operating budget requires the approval of the Sponsor (i.e. Legislature, Board of Supervisors, etc.)	7
The System has budget authority but is heavily influenced by Plan Sponsor	2
With respect to human resources:	
The System has the authority to establish the human resource and compensation policies of the System	6
The System is required to operate within the civil service system and compensation structures of the Plan Sponsor for **all or most** of its staff	14
System has authority to establish its own human resource & compensation policies but has chosen to be consistent with civil service rules	5
With respect to procurement:	
The System has the authority to set its own procurement rules	13
The System is required to operate in accordance with the procurement rules of the Plan Sponsor	6
The System is authorized to set its own procurement rules but has chosen to be consistent with the rules of the Plan Sponsor	6
With respect to key appointments	
The System has the authority to select the executive director	23
The System has the authority to select other staff	24
The System has the authority to select all service providers & advisors	18

Assessment of ASRS

ASRS lacks autonomy and independence in a number of areas that are important for the effective governance and administration of the Agency. These areas include:

Operating Budget: ASRS's operating budget requires the approval of the State Legislature. We believe this is problematic, but is nevertheless typical of many U.S. state, county, and municipal retirement systems (see Table 1).

Investments: ASRS is subject to various investment restrictions that limit the percentage of system assets that can be allocated to various asset classes, strategies, and securities. While the imposition of such constraints is inconsistent with best practices, we were informed by ASRS staff that in recent years the constraints have not materially affected the Agency's ability to prudently invest the assets of the fund. Furthermore, staff indicated their intent to propose legislative changes that would help to mitigate the impact of these constraints.

Procurement: ASRS must operate in accordance with State procurement rules. Again, we would suggest that as fiduciaries of a trust fund, the Board should have the ability to establish procurement procedures that reflect the unique needs and circumstances of ASRS. Nevertheless, it is not unusual for public retirement systems to be subject to the procurement procedures of the plan sponsor (see Table 1).

Legal Counsel: Currently, ASRS cannot independently appoint its own external legal counsel, but rather requires the approval of the State Attorney General's Office. We believe this adds an unnecessary step to the appointment process which likely detracts from the efficiency of ASRS. It also gives rise to potential conflicts of interest in situations where ASRS requires legal advice on matters where the needs of ASRS and those of the State are at odds. Unfortunately, however, this is not an unusual arrangement among U.S. public retirement systems.

Personnel & Compensation: As of the date of this report, ASRS has control over staff compensation practices, which we believe is a prerequisite for optimal management of the Agency, particularly the investment program. We understand, however, that legislation is being considered that may shift partial control of compensation and personnel matters for all state agencies to the Department of Administration. Our discussions with the Board and senior staff of ASRS indicated they recognize such a shift may represent a risk for the Agency. Cortex concurs with this assessment.

Recommendations

Cortex recommends that ASRS consider addressing at least some of the above limits on its autonomy through its strategic planning process, given their potential impact on the long-term success of the Agency. We appreciate, however, the difficulties involved in addressing issues of autonomy and independence. See findings and recommendations concerning ASRS's strategic planning process for further details (pg. 18).

B) Delineation of Authority

It is generally agreed that public retirement boards should focus on high level policy, strategy, and oversight; and should delegate the implementation of policy and strategy to staff. Published governance standards support this view, but seldom provide *specific* direction as to how responsibilities should be delineated. Instead, they typically provide general principles or guidelines, such as those noted below.

> The [board] is expected to oversee and assume responsibility for the pension plan but is not expected to manage the plan on a day-to-day basis[3].
>
> The plan should allocate authority in inverse proportion to the importance of the task … thus minor tasks may be completely delegated to staff but extremely important tasks may be restricted to decisions by trustees or require trustee participation.[4]

ASRS Current Practices

ASRS has established a thoughtful and carefully designed investment decision-making structure, the major features of which are summarized below:

The Board is responsible for:
1. Overseeing and participating in the long-term strategic planning process.
2. Approving the selection and termination of the external financial auditor and general investment consultant(s), and overseeing their performance.
3. Appointing, annually evaluating, and if necessary removing the Director.
4. Reviewing and approving macro-level strategic investment policies which guide the strategic vision for ASRS investments.
5. Reviewing and approving the agency biennial risk assessment and internal audit plan.
6. Reviewing and approving recommendations of the Director to appoint or remove the agency's internal auditor.

The Investment Committee is responsible for:
1. Recommending to the Board the investment goals for the ASRS investment program.
2. Recommending to the Board a strategic asset allocation to achieve the ASRS investment program objectives.
3. Reviewing and overseeing the reporting of the ASRS investment program to the Board.
4. Recommending to the Board the selection and termination of the ASRS general investment consultant(s) and overseeing consultants' performance.
5. Recommending the ASRS strategic investment policies to the Board.
6. Monitoring the ASRS asset allocation, investment portfolio structure, and strategic investment policies.
7. Reviewing annually the ASRS Investment Policy Statement.

[3] *CAPSA Governance Guidelines,* Principle #3, page 7.
[4] *Clapman Report,* Principle E. Delegation of Duties & Allocation of Responsibilities among Relevant Authorities, Principle 3, page 17.

The Director is responsible for:

1. Safeguarding the assets of the ASRS by appointing a custodian and developing and implementing proper internal controls.
2. Appointing or removing the CIO or other staff as required.
3. Recommending the appointment or removal of the internal auditor.
4. Performing annual performance evaluations of those who have a direct reporting relationship to the Director.
5. Overseeing and assisting the CIO in developing macro-level strategic investment policies.
6. Reviewing and approving standard operating procedures for the Investment Management Division.
7. Assisting the Board in selecting general investment consultants.
8. Approving all contract extensions, including those for the general investment consultant and Asset Class Consultants, and investment managers.
9. Reviewing and approving, with the consensus of the CIO, recommendations from the Asset Class Committees to hire and terminate asset class consultants

In conducting our review, we devoted particular attention to the manner in which the selection of investment managers and consultants is addressed within the decision-making structure. The Agency's approach is summarized below:

1) On the recommendation of the Investment Committee, the Board selects and appoints the General Investment Consultant, which is responsible for advising the Board on asset allocation policy and other macro-level policies.
2) The selection and termination of investment managers and asset class consultants has been delegated to staff-level Asset Class Committees (ACC) that are comprised as follows:
   a) The Director and/or CIO are voting members of the ACC.
   b) ASRS staff, responsible for portfolio management, serve on the ACC to provide subject matter expertise. Such staff members are voting members of the ACC.
   c) Non-voting trustees appointed by the Investment Committee Chair serve on the ACC to provide oversight and expertise. Such trustees are non-voting members in order to preserve the separation of oversight and decision-making responsibilities.
   d) Asset class consultants selected by an ACC serve on such committees to provide additional subject matter expertise and an independent perspective. Consultants are also non-voting members of the ACC.

The ASRS governance structure contains the following safeguards to allow the Board to oversee the consultant and manager selection processes:

1. Both the Director and CIO must agree to the appointment or termination of an investment manager and asset class consultants.
2. Before hiring or terminating an asset class consultant, the Director or the CIO will notify the Investment Committee and the Board of their intention, and solicit comments from both prior to effectuating the proposed course of action.
3. The Investment Committee Chair must approve the use of the General Investment Consultant for any ACC manager search.
4. Any trustee may request that an investment decision be placed on an Investment Committee agenda or subsequently a Board agenda for further discussion.

Industry Practices

Based on our experience and research, we have found that most U.S. public retirement systems do not follow what would generally be considered best practices in the area of investment manager selection. That is, rather than focusing solely on high level policy and strategy and oversight, most boards of public retirement systems play a significant and direct role in investment manager selection, which we regard as operational in nature. Playing such a role diffuses accountability for manager selection decisions and diverts the board's attention from higher level policy and oversight matters.

When selecting investment managers, most public retirement systems use the following approach, or a variation thereof:

- Staff and consultants identify candidates and perform preliminary research and due diligence.
- Staff, consultants, and often some board members participate in on-site due diligence concerning investment managers.
- Staff and a consultant recommend a candidate (or two or three finalist candidates) to the Board or investment committee.
- The Board or investment committee interviews the final candidate(s) and selects a winning firm.

Best practices suggest that, in cases where boards have a qualified investment staff, they should delegate to them the authority to select investment managers. This approach leads to clearer responsibilities, more efficient decision-making, and allows the Board to elevate its attention away from operational matters to higher level policy and strategy issues. We have in fact observed a slow shift in this direction and we expect this shift to continue as investment programs become increasingly complex.

Below we describe preferable approaches, in which boards largely delegate manager selection responsibilities to staff:

Approach A: Staff-Only Authority

Under this approach, staff has the authority to hire and terminate investment managers and select investment funds without any board involvement, but subject to various guidelines and constraints set out in investment policies and procedures (there also may be a maximum limit on the size of investment mandates staff may approve). Staff may use the services of investment consultants to assist in the research and due diligence process, but manager selection decisions are solely at the discretion of staff.

Two well known examples of retirement systems that use this approach include the Ontario Teachers' Pension Plan (OTPP) and the Colorado Public Employees' Retirement Association (CoPERA). In the case of OTPP, staff approve whether a mandate is to be managed internally or externally and also approve all investments and managers with a value of up to $800m. For mandates or investments above that amount, board approval is required. In the case of CoPERA, the board approves each manager mandate and whether the mandate is to be managed internally or externally. The Executive Director and CIO have authority to approve the selection of all investment managers in public markets. In private markets, the Executive Director or CIO have the authority to approve investments of up to $100m in value; investments greater than this amount require board or investment committee approval.

In both of the above examples, the board approves the general process for selecting managers, and relies on audits of the process by both internal and external auditors to obtain assurances that the process is being followed.

Approach B: Joint Staff/Consultant Authority

Under this approach, only the Executive Director, the CIO, and an investment consultant participate in the manager selection process and all three must agree in order for an investment manager to be hired or terminated. The investment consultant is hired by the Board.

Two well known public retirement systems that employ this approach are the Missouri State Employees' Retirement System (MOSERS) and the Public School and Education Employee Retirement Systems of Missouri.

While we understand that the above approach has worked successfully at both the above funds, we would point out that the approach diffuses responsibility and accountability for manager selection among both staff and the investment consultant. We also believe the approach strongly hinges on the ability of the staff and the particular consultant to work together effectively.

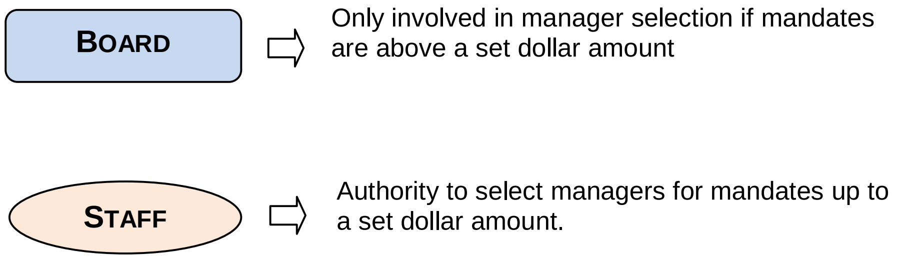
Approach C: Staff-Only Authority with Direct Consultant/Board Oversight

Under this approach, staff is responsible for selecting and terminating investment managers, subject to direct oversight by an investment consultant and the Board. A well known public retirement system that follows this approach is the Texas Teachers' Retirement System (TRS). TRS's approach is summarized below:

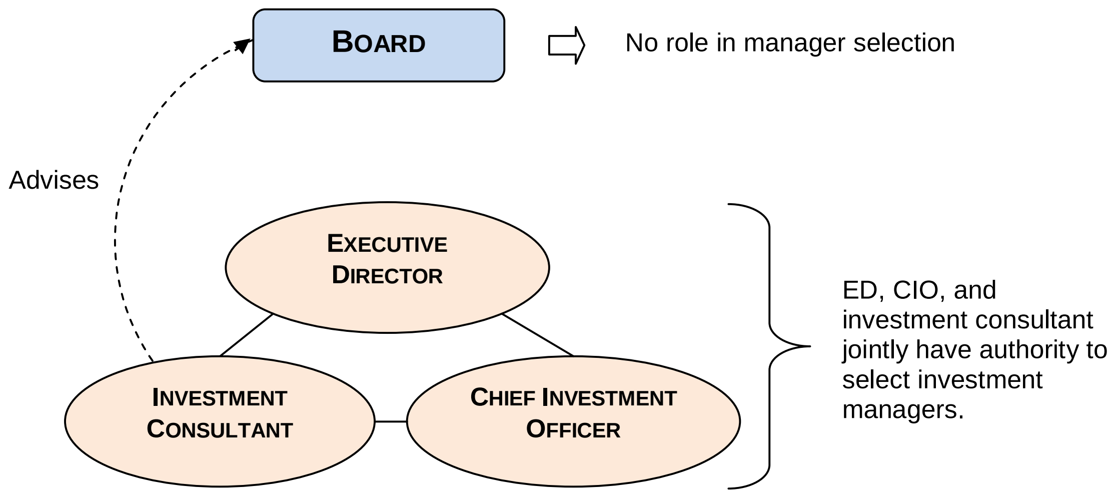
1) TRS uses a staff-level investment committee comparable to ASRS's Asset Class Committees. The TRS staff-level investment committee however consists solely of investment staff.
2) A TRS investment consultant is required to prepare a Prudence Letter indicating that the consultant believes an investment manager selected by the staff-level investment committee is prudent, before any selection decision can be made.
3) Board members are provided regular transparency reports on all activities of the staff-level investment committee.
4) Board members are provided, in advance, the agenda of each staff-level investment committee meeting and have the ability to request that any manager selection decision on the agenda be elevated to the Board or Investment Committee level for review. Staff may also decide to elevate a decision to the Investment Committee of the Board or to the full Board.

Examples of Governance Approaches in Place at Public Retirement Systems

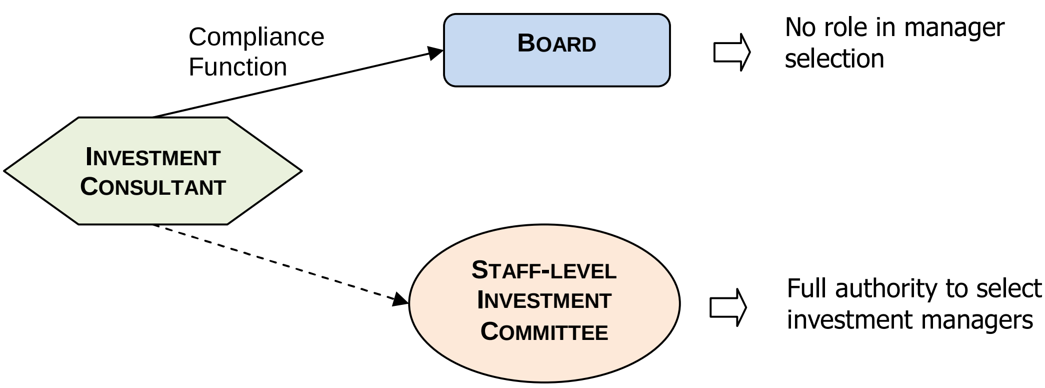
Approach A



Approach B



Approach C



Analysis of the ASRS Approach

The ASRS approach for manager selection is most consistent with Approach C (staff-only approach with direct consultant/board oversight). Below is a discussion of the strengths and weaknesses of the ASRS approach:

Strengths

- Consistent with best practice, the ASRS approach attempts to maintain a distinction between the role of the Board and the role of staff with respect to manager and consultant selection. Staff is responsible for selecting and terminating investment managers and asset class consultants, while the Board is responsible for approving policy and overseeing management's activities.
- By assigning responsibility and authority for manager selection to staff, the ASRS approach is clearly intended to ensure that staff can be held accountable for investment manager performance.
- The current ASRS approach is highly transparent to the Board, as several board members serve on the asset class committees. Accordingly, the Board is privy to the details of the investment decision-making process.
- The approach has a number of safeguards; most importantly, any trustee may request that a decision coming before an ACC be elevated instead to the Investment Committee or to the Board for review.

Weaknesses

- *Role of Trustees*. By design, trustees serve on the ACC to provide additional expertise and oversight while investment staff is to be responsible and accountable for selecting investment managers. Discussions with board members and consultants, however, indicated that in practice the ACC decision-making process does not function exactly as designed, as Trustees appear to do more than simply provide oversight, but rather have a strong influence on ACC decisions. In fact, both trustees and consultants indicated that if the trustees serving on the ACC do not concur with a staff decision to select or terminate an investment manager, it is less likely that the decision will be made. We believe this is contrary to the intent of the structure.

  Given the existence of trustees on the ACC, we believe it would be difficult for trustees to limit their role to oversight and maintain true separation between the roles of trustees and staff on the ACC. Instead, trustees will inevitably have a strong influence on the investment decision-making process of the ACC. Over time, such influence weakens staff authority for manager selection and erodes the Board's ability to hold staff accountable for investment manager selection decisions.

- *Role of Consultants*. Though ASRS has devoted more attention to clarifying the role of its consultants than most pubic retirement systems we have worked with, we nevertheless find that the roles of its consultants could be clarified further.

  Investment consultants are non-voting members of the ACC and are expected to provide additional subject matter expertise and an independent perspective. The Governance Policy Manual does not however specify the issues upon which the consultants are to provide an independent perspective and to whom. For example, are the consultants expected to provide an independent perspective on the relative qualifications of prospective investment managers? If so, the consultant is effectively functioning as a senior investment officer, and may strongly influence the decision process, thus potentially diluting staff accountability. Alternatively, if consultants are expected to provide an independent perspective on whether a manager selection decision of the ACC was reasonable and consistent with generally accepted standards of prudence, then the consultant is serving an independent audit role for the benefit of the Board. We believe a consultant should play only one of these roles at a time.

- *Timeliness of Decision-making*. By having trustees serve on the ACC, the ACC is constrained in terms of the frequency and timing of its meetings. That is, meetings must be scheduled to accommodate the schedules of not only the investment staff but also trustee members, who would typically have full time occupations outside ASRS. We were informed that current trustee members of the ACC have made themselves readily available to the ACC, but by definition trustees cannot be as accessible and available as the investment staff.

- *Staff Retention*. In our experience working with many senior executives of public retirement systems, high-quality staff expects to have clear authority and accountability for managing the operations of the retirement system and are uncomfortable with unclear or ambiguous governance arrangements where their personal authority and accountability are unclear. In such situations, retirement systems will have difficulty attracting and retaining high-quality staff over the long-run.

Recommendations

To address the above concerns, we provide the following recommendations:

1) The composition of the ACC should be changed to consist solely of the Director, the CIO, the investment staff involved in portfolio management, and any other investment staff to be determined by the Director and CIO.
2) ACC consultants should not be required to serve on the ACC. Instead, the role of ACC consultants should be re-defined to be an extension of staff and should be responsible for performing staff-level work such as research and due diligence for the benefit of the ACC. ACC consultants may participate in ACC meetings at the discretion of the Director and CIO.
3) The ACC should be subject to the following controls (some of which are already in place):
    a) The ACC would be responsible for preparing investment manager selection and termination policies for public and private market managers, which would, to the extent practical, describe the processes and criteria to be used by staff and the ACC when performing due diligence and when selecting investment managers or investments.
    b) The Board would approve the above policies and would periodically review and amend them (e.g. every three years). As an additional safeguard, the policies could be subject to an independent periodic audit or review by a third-party with expertise in due diligence.

c) The ACC would be responsible for complying with the above selection policies each time it selects or terminates an investment manager. The Investment Committee and the Board would receive confirmation of such compliance as follows:

   i) Periodic independent confirmation by the Internal Auditor; and/or

   ii) Independent annual confirmation by a third party, possibly the external financial auditor, and possibly on a sample basis.

d) The General Investment Consultant would review the selection/termination process being followed by the ACC, and should it have a concern with the ACC's decision, provide a written opinion as to its reasons why the decision is not reasonable and/or not consistent with generally accepted standards of prudence. In such a situation, the ACC would not be able to hire an investment manager, unless new information came to light and the General Investment Consultant subsequently was satisfied with the process. As an alternative, the General Investment Consultant could provide an opinion on each manager selection decision, rather than just on an exception basis. It is important to note, under either approach, that the General Investment Consultant is simply asked to confirm that a particular selection is reasonable, rather than recommend which investment manager is the optimal choice.

e) The General Investment Consultant must be independent of both staff and the ACC, and should continue to be selected and appointed by the Board.

f) The General Investment Consultant would also periodically review the strategic direction and management of the Fund and each asset class within the Fund and confirm for the Board whether the direction is reasonable and prudent. We understand the General Investment Consultant already performs this function for the Board through its annual review of the public and private market asset classes.

g) All contracts with investment managers would continue to be subject to legal review. Legal counsel must be satisfied that any contractual concerns have been satisfactorily addressed prior to a manager being appointed, and would inform the Board of any concerns that were not resolved.

h) Various disclosure and transparency mechanisms would continue to serve as control mechanisms for the manager selection process. For example:

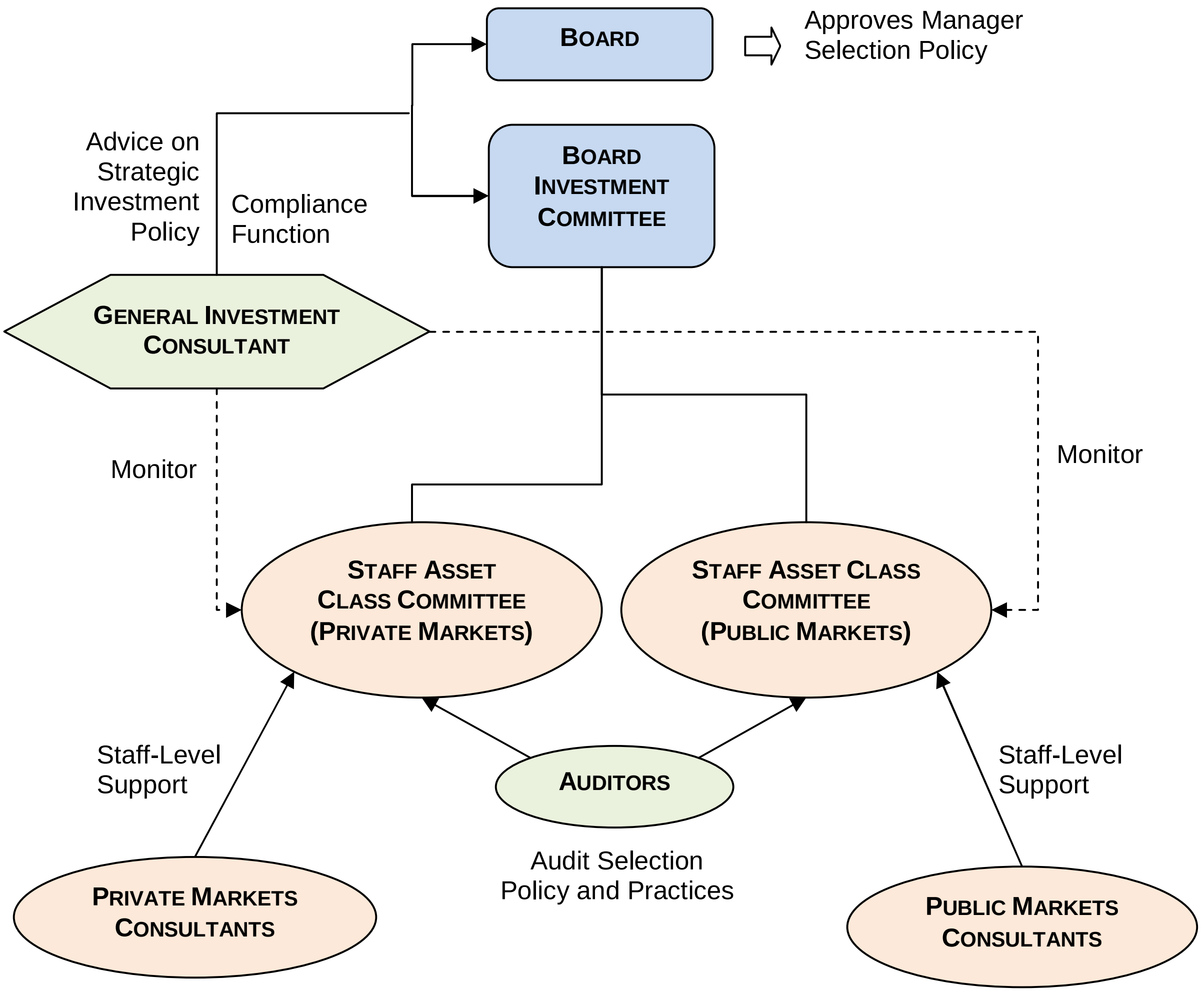
   i) The Board and Investment Committee should be provided the agendas of any ACC meeting at which a manager selection, termination, or other investment decision is to be considered, and any board member would continue to have the ability to request that a decision be elevated to the Board or the Investment Committee for review. We would stress however that, in to order to preserve staff accountability, such authority should be exercised infrequently and only when the prudence of a particular decision is truly in doubt.

   ii) The Board and Investment Committee should be provided with a quarterly report designed to inform board members of all significant activities and issues addressed at the ACC level. (Such a report could be incorporated into the current quarterly performance report.) Interim reports would also be provided if a significant development arises between quarterly reports

i) Finally, if deemed necessary, the Board may establish an upper limit to staff's authority to select investment managers, above which the Investment Committee or the Board would be provided special notification and provided sufficient time (e.g. five business days) to raise any concerns.

Such a limit would need to be carefully arrived at to balance the need to ensure efficient decision-making and maximize staff accountability (i.e. to minimize the number of decisions that would require Investment Committee approval) with the need to manage perceived risks associated with large mandates or other types of investment decisions.

Recommended Structure



Implementing the above recommendations will provide the following benefits:

1) The recommended structure will make it clearer that the investment staff is responsible and accountable for investment manager selection and related decisions.

2) The Board and Investment Committee will be better positioned to focus on macro-level investment policy and risk management decisions, which in the aggregate have the largest impact on the long-term risk and return of the fund. The primary macro-level investment policy decisions include the Statement of Investment Policy with a focus on long-term asset allocation.

3) The investment decision-making process is likely to be more efficient and timely.

4) Through the various oversight mechanisms and checks and balances contained in our recommendations, the Board will be better able to demonstrate to interested parties that the manager selection decisions were prudent and carried out in a systematic, disciplined manner.

5) ASRS will benefit from clarification of the roles of investment consultants in the investment decision-making process. In the manager selection process, each investment consultant will serve either the Board or the staff, and will be assigned one of the following roles:

   a) **Extension of staff**. Consultants may serve as a staff resource accountable to the Director and CIO for providing value-added research, analysis, and insight to inform staff's decision-making process. The nature of this role requires that such consultants be selected, hired, directed, and when necessary terminated by management.

   b) **Advisor to the Board**. Consultants may serve as a direct advisor to the Board on issues that fall within the Board's mandate; i.e. macro-level investment policy and oversight. Such consultants should be selected, hired, directed, and when necessary terminated by the Board.

   c) **Investment Audit Role**. Consultants, internal auditors, or external auditors may, on behalf of the Board, serve as an audit or reasonableness check on management by providing opinions as to the prudence of manager selection and termination decisions. Providing the Board with periodic reviews of the direction and strategies of the Fund would also fall within this role.

Potential Objections or Concerns

Some public fund trustees may be uncomfortable with the approach we have recommended for ASRS. Possible concerns and our responses are set out below:

1. *Concern: Public fund trustees have a fiduciary duty to select investment managers.*

Response: We would suggest that trustees have a fiduciary duty to ensure that a prudent process is in place to ensure that appropriate investment managers are selected to serve in the best interests of the members and beneficiaries of the Plan. We believe that the process and structure we have recommended are more rigorous and disciplined, and therefore more prudent, than a process in which trustees are directly or indirectly involved in manager selection decisions. As noted above, a number of other leading public funds have delegated manager selection fully to staff..

2. *Concern: If a trustee has specialized knowledge and expertise regarding manager selection, they should be required to utilize that expertise in the manager selection process?*

Response: Cortex agrees. However, trustees' specialized knowledge and expertise should be utilized in a manner that preserves the separation of board and staff roles as follows:

- If a trustee has specialized expertise in the area of due diligence and manager selection, such knowledge should be shared with management and staff in a board policy context; i.e. if a trustee believes that certain questions, analyses, or activities should form part of the due diligence process, these should be incorporated into the manager selection policy, which staff would subsequently be required to follow when performing due diligence, and which would be subject to periodic audits by independent experts.

- If a trustee has special knowledge about a particular investment manager or opportunity, which the trustee believes is unlikely to be uncovered in the normal course of a due diligence exercise (for example, a trustee may have private knowledge of a particular private equity general partner) then the trustee would likely have a fiduciary duty to disclose that information. The process we have recommended, however, ensures that board members will be fully informed of what is going on at the ACC level and would receive the agenda of any ACC meeting at which a particular investment manager is being considered. Consistent with current practice, any trustee with private knowledge of a particular manager is able to engage the Director or the CIO directly to share such information.

3. *Concern: The investment consultant should approve every investment manager selection decision in order to protect the board and the system from potential liability.*

Response: The recommended structure requires that an independent consultant will provide an objective opinion on the reasonableness and prudence of manager selection decisions, either on an exception basis or prior to selection decisions being made. We believe this approach provides a high level of rigor for the decision process while also maintaining clear accountability for staff.

4. *Concern: Some systems may lack sufficient investment staff necessary for the board to feel comfortable fully delegating manager selection decisions. In such circumstances, it is useful for board members with relevant expertise to serve on staff committees involved in manager selection.*

Response: U.S. public funds admittedly face considerable challenges attracting and retaining investment staff due to constraints on budgets, staffing levels, and compensation. The recommended approach, however, is able to compensate for any lack of staff resources by allowing staff to use external consultants when necessary to help perform the due diligence and related work that under different circumstance would be performed by staff. We would not suggest that a board should compensate for a lack of staff resources by assuming the role of staff.

If a board cannot satisfy itself that it has sufficient staff or staff-level consulting resources, then it may need to consider other strategies such as outsourcing or simplifying the investment program. Getting directly involved in the manager selection process, however, is not a strong, long-term solution.

5. *Concern: If the Board is not represented on the ACC, the Board cannot be assured that staff or consultants are not engaging in unethical behaviour with respect to the selection of investment managers.*

Response: This is a legitimate concern, but we do not believe that having board members serve on ACC resolves the issue. Instead, we would suggest the Board should remain at arms-length from the selection process so as to be able to more effectively monitor compliance with conflict of interest laws, policies, and disclosure requirements governing staff, consultants, and investment managers; and compliance with agreed-upon manager selection and due diligence processes. Furthermore, the recommended approach requires full disclosure of ACC activities via reporting to the Board and Investment Committee.

C) STRATEGIC PLANNING

The purpose of a strategic plan is to:

- Articulate a vision of the type of organization one is striving to create.
- Confirm the mission of the organization (in the case of ASRS, the mission is essentially contained in statute).
- Set out the organizational objectives one is aiming to achieve.
- Identify threats or risks to achieving the mission or vision.

Ultimately, a strategic plan should reflect a clear consensus within an organization as to the direction the organization wishes to pursue, and what must be done in order to follow it.

Current Practice

ASRS has a formal strategic planning process that can be summarized as follows:

1) ASRS uses a three-year time period for its strategic planning process.
2) At the conclusion of each three-year period, ASRS reviews its performance against the goals and objectives in place and develops its direction and desired outcomes for the following three years.
3) The strategic plan is developed by:
    a) Gathering input from trustees, executive staff, and management on the future direction of ASRS.
    b) Reviewing current performance data and discussing future trends.
    c) Analyzing industry best practices.
    d) Obtaining and reviewing member feedback.
4) ASRS prepares a formal strategic planning document containing the system's mission, vision, values, investment principles, strategic goals for the coming three years, and details concerning its operational, investment, and administration goals.

ASRS also develops strategic plans for its alternative asset classes including real estate, private equity, and the opportunistic private investment program. These strategic plans however are not strategic documents that guide the organization as a whole. Instead, they are designed to provide greater detail on how each of the alternative asset classes will be managed, and to describe the investment philosophy, investment objectives, investment policies, and governance of such asset classes.

Assessment of ASRS

Below are strengths and weaknesses of ASRS's strategic plan and process.

Strengths
Strengths of the ASRS strategic planning process include the following:

1) The ASRS strategic planning process is consistent with the approaches we have seen at other similar sized public retirement systems. It also appears to be developed using a similar process involving input from a number of parties, both internal and external to the System.
2) ASRS correctly notes that its mission is essentially contained in its governing statute, and unlike private sector corporations, it has virtually no control over its mission.
3) The strategic plan contains a useful mix of inspirational statements and concrete goals and objectives.

Weaknesses
We considered the ASRS strategic plan from an investment program perspective and identified the following concerns or weaknesses.

1) With respect to investments, the Strategic Plan simply reiterates the investment objectives already contained in the statement of investment policy. Accordingly, it does not add value to the investment program beyond what is already provided by the statement of investment policy.
2) The strategic plan does not present a vision or plan concerning how the organizational structure and human resources will evolve over the coming years to effectively manage an increasingly complex and sophisticated investment program.
3) The strategic plan does not address major strategic issues or risks of ASRS (as identified by a number of board members). These include:
   a) Threats to the independence and autonomy of ASRS, particularly the risk that ASRS may lose autonomy over its personnel and compensation policies and practices.
   b) Succession risk pertaining to the executive leadership of ASRS.
   c) The risk of significant turnover among board members, given that a number of board members currently may be replaced at any time. (We recognize this issue may be somewhat academic as the Board has little or no ability to influence it.)
   d) The challenge of attracting and retaining the requisite investment staff.

Recommendations

From our interviews with ASRS board and staff, it is clear that ASRS is well aware of the strategic issues and risks noted above, and that these issues are discussed internally on a regular basis. Nevertheless, we would suggest that in order for ASRS to gain maximum advantage from its strategic planning efforts, the strategic plan should, where feasible, address at least some of these same issues and, where practical, contain concrete objectives and implementation plans to deal with them.

In particular, we recommend that the strategic plan should describe the type of investment organization ASRS aims to be within the next 3-5 years, addressing issues such as:

- The level of autonomy the Agency needs to have.
- The type of organizational structure the Agency needs to have (i.e. staff and consultants).
- The human resource goals of the Agency (i.e. related to staff complement, compensation, attraction and retention efforts.)

D) GOVERNANCE REVIEWS

Published governance guidelines recommend that boards regularly evaluate their governance practices and their own performance, though they do not provide details concerning the approaches to be used. Cortex believes boards should follow multiple approaches to reviewing their governance programs. Elements may include:

- Periodically reviewing internal documentation describing the roles and responsibilities of key parties in the governance process.
- Monitoring compliance with the Board’s governance policies.
- Periodically conducting a self-assessment of the board’s own performance.
- Periodically reviewing the board’s governance practices (e.g. education, planning, decision-making practices).
- Use of a third-party to conduct or facilitate the review, as appropriate.

Assessment of ASRS

Strengths

ASRS’s practices are consistent with or exceed best practices, in that:

- The Board regularly evaluates the continued appropriateness of its governance policies and the clarity and appropriateness of roles and responsibilities.
- The Board and individual trustees evaluate their own performance annually.
- ASRS has benchmarked its governance practices and structures to standards and industry peers.

The current governance review being undertaken by Cortex is another example of how ASRS has devoted organizational resources to reviewing the governance practices of the Agency.

Weaknesses

While we commend ASRS on its commitment to reviewing and maintaining its governance program, we would suggest that the Board may be revisiting its governance policies too frequently. Currently the Board Governance Policy Manual is required to be reviewed annually and we were informed that the Board frequently discusses the allocation of investment-related responsibilities, particularly with respect to the role of the Board, staff, and consultants in the selection of investment managers and consultants.

Cortex recommends that clients review their governance policies every three years and we have found this to be an appropriate frequency. Our research into industry practice is also consistent with this approach. Reviewing one's governance policies more frequently may be problematic for a number of reasons:

- Every organization faces limited time, energy, and resources. Excessive review and discussion of one's governance policies reduces the time and energy that can be devoted to investment policy, strategy, and investment operations.
- Frequent review and discussion of one's governance policies may lead to policy or governance fatigue at both the board and staff levels.
- Frequent review and discussion of one's governance structure may indicate a lack of commitment to, or acceptance of, the current structure, which may raise doubts in the minds of trustees and particularly staff as to whether the Board truly supports the documented responsibilities and authority of staff.

Once the Board adopts a governance structure, it is important that it be disciplined enough to refrain from revisiting the structure for at least a few years, unless events or circumstances truly demand that it be reviewed sooner.

PART II - SECONDARY FINDINGS

This section of our report addresses secondary findings and recommendations identified in our review.

A) POLICY FRAMEWORK

A sound, comprehensive policy framework is a central component of a retirement system's risk management system. In our review, we considered ASRS's governance policies contained in the Governance Policy Manual, the statement of investment policy, and the strategic plans for private equity, real estate, and private market opportunities.

Published standards are unanimous in recommending that the roles and responsibilities of all significant parties involved in governing and managing a public retirement system be clearly documented and accessible. At a minimum, the board should approve documentation setting out the roles of the following parties:

- The board
- Officers of the board
- Standing committees of the board
- Executive director or comparable position

Findings

ASRS has developed a comprehensive Board Governance Policy Handbook containing policies describing the roles of the Board, trustees, the Director, Board Chair and Vice-Chair, the three standing committees of the Board, the internal auditor, and the two management-level asset class committees.

We believe ASRS has devoted more effort than most funds to defining clear roles for the various parties involved in the governance of the Agency, as evidenced by the numerous and detailed role-related policies in place. In addition, the ASRS Governance Manual contains most of the governance policies we would consider as representing best practices. Furthermore, we found that ASRS's policies are thoughtfully written and clearly reflect a concerted effort to clarify the distinction between the roles of the Board and management, as well as the rationale behind ASRS's allocation of responsibilities.

Recommendations

1. Consolidate Governance Policies. ASRS's governance policies concerning investment-related responsibilities are currently found in a number of documents including:

a) The Board Governance Policy Handbook (specifically the position descriptions for the Board, IC, Director, and asset class committees.
b) The Opportunistic Private Investment Program Strategic Plan
c) The Real Estate Investment Program Strategic Plan
d) The Private Equity Investment Program Strategic Plan

e) The Statement of Investment Policy (this document essentially refers the reader to the Board Governance Policy Handbook for details concerning roles and responsibilities)

We recognize it is common practice for investment policy statements to specify roles and responsibilities, for investments. For public retirement systems, however, this practice tends to result in roles and responsibilities being set out in multiple documents, having different formats, and sometimes having conflicting provisions.

2. Gaps in investment responsibilities: While we found the governance policies to be very comprehensive, we did identify a small number of concerns or gaps that should be clarified or addressed as follows:

a. The Governance Policy Manual does not clearly indicate who is responsible for decisions of portfolio structure such as:

   i. The number of investment managers to be used for a given strategy and how much to be allocated to each manager.
   ii. Whether a mandate is to be managed internally or externally.
   iii. Whether certain portfolios are to have strategic biases (e.g. a value or growth tilt)

   Based on our discussions with staff, we understand that the ACC has the authority to determine the number of managers to be hired for a particular mandate and assets to be assigned to each manager when hired. We further understand that staff has the authority outside of the ACC to make tactical asset class decisions. For further clarity, however, we would suggest these authorities be clearly documented in the Governance Policy Manual.

b. The Real Estate Strategic Plan states that all investments in a managed account structure and directly owned investments will be independently valued at least every three years by a qualified expert. Neither the Strategic Plan nor any of the other governance policies indicates which party is responsible for selecting and appointing such experts. We would suggest this is an important function from a governance perspective, and that the Governance Manual should specify that the Board will retain this responsibility.

c. The Investment Policy Statement authorizes ASRS to engage in securities lending. It also however delegates authority to staff to determine the securities lending program parameters (risk profile, aggregate lending balance, types of securities on loan, collateral requirements, etc.). Such broad delegation to management may be problematic from a governance perspective and is contrary to published standards. Guidelines issued by the CFA Institute suggest that securities lending programs create some degree of collateral investment and counterparty risk and that an investment policy should be established to govern participation in the plan. The CFA Institute's guidelines go on to provide examples of constraints that might be contained in such a policy including:

   - Loaned securities shall be collateralized at no less that 103 percent of the market value and be marked to market daily.
   - In no instance will collateral repurchase agreements aggregate more than 15 percent exposure to any single counterparty.

We recommend that any major policy parameters governing the securities lending program be approved by the Board rather than staff.

d. Various guidelines concerning communications can presently be found in various ASRS governance polices including the Director Position Description, the Trustee Position Description and the SIP. There may be value in preparing a stand-alone Board Communications Policy that contains all board-related communication guidelines in a single document, and addressing communications with:

- Investment managers, consultants, and other vendors
- Staff
- Plan members
- Media and other stakeholders

e. ASRS investment policy is well written. We particularly appreciated the inclusion of sections devoted to investment principles and beliefs. ASRS may wish to consider expanding the coverage of the following additional policies in the investment policy:

- *Use of leverage and derivatives*. The current investment policy does not address derivatives use apart from indicating that authorization to permit or not permit leverage and derivatives may be found in separate agreements with investment managers or partner agreements. The CFA Institute guidelines however recommend that leverage and derivatives should be addressed by the SIP.
- *Currency management*. Though ASRS invests in foreign markets, the current investment policy does not address currency management. Once again, the CFA Institute's guidelines suggest the investment policy should address currency management, if relevant.

f. Investment Reporting: Cortex reviewed the Investment Program Report provided to the Investment Committee and the Board by staff and the General Investment Consultant. We found the report to be very well designed and very thoughtful. In particular, we found that the Report did an excellent job of relating the performance of the Fund to the six Investment Program Investment Goals, thus allowing the Board and the Investment Committee to quickly and effectively assess whether the goals are being met. We find that performance reports provided to Boards often do not facilitate such an assessment. Furthermore, the Report contained clear performance attribution analyses to enable the Investment Committee and the Board to determine which investment decisions have added or lost value.

To further enhance the above Report, ASRS may wish to consider expanding the attribution analysis to address whether the Fund's decision to mismatch assets and liabilities has added or lost value over various time frames; i.e. the decision to invest in a portfolio containing equities rather than a minimum risk or immunized portfolio. We admit that such analysis is uncommon among public funds and that many may believe such analysis is academic. We nevertheless believe that, at a minimum, there is educational value in such analysis.

Cortex also recommends that the above Report include performance metrics or attribution analysis relating to the internally managed portfolios to enable the Board to assess the value added or lost from the decision to invest assets internally versus externally.

g. Risk Management: There is a growing recognition that risk management is a central function of the boards and senior executives of large institutional funds and should be addressed in the policies of such funds. The nature of risk management policies is, and will likely always be, evolving. One might expect a risk management policy to address some or all of the following:
    iv. A framework for considering risk including identification and definition of key risks;
    v. General principles and philosophy of the fund with respect to investment risk management;
    vi. A general statement describing the risk appetite(s) of the Board or a requirement that such a statement be developed; and
    vii. Specific policy limitations regarding certain risks identified in the framework.

In our review, we found that the ASRS Investment Policy Statement does indeed contain a section entitled, Risk Management, Monitoring, and Reporting. This section of the Investment Policy Statement briefly describes the ASRS risk management framework, including operational risk and investment risk. It also contains very general provisions concerning responsibilities for risk management and reporting.

We understand that ASRS has recently developed a risk reporting system, which includes a Total Fund Risk Report and a Security Lending Dashboard Report, and that such reports are provided to the Board on a quarterly basis. The Total Fund Risk Report provides an overview of total plan exposure to various sectors, geographic regions, market capitalization sectors, and individual issuers or industry groups, and the Security Lending Dashboard Report provides an overview of the risks in the credit-related security lending markets.

We would suggest that investment risk management should become an increasingly important focus for the Board of ASRS, and that ASRS should continue building upon its risk management policy by considering the following:

- Expanding upon the risk management framework by further defining the various risks to be managed.
- Articulating ASRS's philosophy on risk management (this is particularly important, as beliefs may vary widely and the Board and staff need to share a common view, or at least understand each other's views).
- Attempt where possible to articulate the Board's risk appetite (it would appear that the statistical data currently being reported to the Board would support the definition of a risk appetite).
- Where possible, define limits or parameters for specific risks of the Fund; e.g. credit risk, liquidity risk, leverage.

In general, ASRS's risk management policy should create the framework to guide ASRS's risk reporting practices. We realize this is a complex task and likely cannot be accomplished immediately. We would suggest instead that the risk management policy be viewed as a work-in-progress.

h. Investment Management Fees. The current investment policy indicates that "ASRS strives to maintain an efficient and relatively low aggregate investment management fee structure." It also specifies that investment staff will evaluate securities-level transaction costs for external public equity managers, and pre- and post-transaction costs for public manager transitions. While it may be implied, the policy does not require that staff provide the Board or Investment Committee with reporting on such costs. Furthermore, the policy excludes other asset classes, such as public fixed income, and excludes the internally managed portfolios. We believe there is value in evaluating securities-level transaction costs where possible across all portfolios, subject to cost-benefit considerations.

   It should also be noted that staff informed us they are currently only evaluating pre- and post-transaction costs for public manager transitions on an ad hoc basis.

i. *Format and Consistency.* We identified minor inconsistencies in some of the governance provisions, which we recommend be addressed. For example:
   i. The strategic plans for private equity and real estate continue to make references to a Private Equity Committee and a Real Estate Committee, though these committees have been disbanded.
   ii. There is conflicting language in the Director Position Description and the section of the Governance Policy Manual describing the role of Asset Class Committees with respect to the selection of asset class consultants. Specifically, the Director Position Description indicates the Investment Committee must consent to the Director's recommendation to hire or terminate an asset class consultant, while the role of the Asset Class Committee indicates that, "When hiring or terminating asset class consultants, the Director or CIO will notify the Investment Committee and the Board Chair of their intention and solicit comments from both prior to effectuating the proposed course of action.

B) BOARD EDUCATION

Published standards are unanimous in recommending that public retirement systems provide education for their board members.[5] The standards, however, typically provide only general guidance in this regard. For example, the Clapman Report recommends that "trustees, on a regular basis, should obtain education that provides and improves core competencies, and that assists them in remaining current with regard to their evolving obligations as fiduciaries." The CAPSA Governance Guidelines state, "The plan administrator should be provided with appropriate training and ongoing education, as required".

We believe best practices require retirement systems to develop board education programs that incorporate most, if not all, of the elements listed below, tailoring them to their particular circumstances:

a) A board education policy that sets out what is expected of board members with respect to education;

[5] For example, see *CAPSA Governance Guidelines*, the *Clapman Report*, the *GFOA Governance Guidelines*, and the *OECD Guidelines for Pension Fund Governance*.

b) A new board member orientation program;
c) Continuing in-house education delivered by staff, advisors, or other third parties;
d) Opportunities to attend conferences, seminars, or courses;
e) Periodicals, books, and other literature that board members may use for self-study purposes;
f) An education needs assessment process.

Findings

In our experience working with other public retirement boards, trustees tend to have concerns about the level and quality of board education available to them. We are pleased to report that no such concerns were raised during our interviews with ASRS board members. Board members indicated that the new trustee orientation program is very useful, as are the various in-house education sessions that are provided to board members. Furthermore, board members indicated that they believe they have the ability to attend various external education programs and conferences and that staff are always available to provide them with information or to assist them in identifying additional education resources. The only obstacle that was identified to obtaining further education was lack of time. This however is a common issue identified by public fund trustees across the industry.

Consistent with best practices, ASRS has developed a board education policy entitled *Trustee Orientation and Education Program*. Our review of the policy found it to be consistent with best practices in that it addressed the key issues one would expect to find in such a policy including:

- Provisions pertaining to new trustee orientation
- A description of the general scope of educational topics with which trustees should be familiar. We found the range to topics to be appropriate for trustees of a public retirement system such as ASRS.
- A provision confirming that trustees are encouraged to attend relevant external conferences and seminars.
- A requirement that the Director periodically provide the Board with information on available conferences and seminars.
- A requirement that the Director arrange for an annual fiduciary education session for the Board.

Recommendations

We have a number of recommendations concerning education for the Board's consideration:

1) We recommend that the Board periodically be provided an education session on the service provider selection process and criteria for public and private markets. This recommendation would be particularly important if the Board accepts our recommendation to remove trustees from the asset class committees responsible for manager selection. Such education sessions would serve two purposes:

    a) The education sessions would help to ensure the Board understands the manager selection and due diligence process and is able to monitor whether the agreed upon processes are in fact being followed.

b) The education sessions would allow board members with special expertise relevant to manager selection to share their suggestions for improving the selection and due diligence process and ensuring those suggestions are incorporated into board policy.

2) We recommend that the topic of decision-making theory be included in the board's education curriculum. There has been considerable work done in recent decades on this topic, including human biases in decision-making and how to manage them; this topic is also closely related to behavioural finance and there are a number of experts in the field that would be available to provide education to the Board. We believe such training would also be valuable for ASRS staff.

   Admittedly, decision-making is not typically included in most fiduciary education programs and we are aware of only one of our clients that has targeted this area for board training. Nevertheless, we believe it is an important concept and potentially a source of competitive advantage for public retirement systems.

3) We recommend that the Board continue to devote educational resources to the topic of fiduciary duty. This will be particularly important with expected turnover among board members and in light of the Agency's move to allow investments outside of commingled accounts.

4) The Board may wish to consider developing a multi-year education plan that would set out the education efforts and topics to be addressed over the coming years. Such a plan, however, should be flexible, allowing for topics to be added or removed to reflect changing needs and circumstances.

C) EVALUATION OF THE DIRECTOR

Published standards recommend that governing boards evaluate the performance of key decision makers and staff, but do not provide details.[6] Cortex has nevertheless identified the following best practices in this area:

- Boards should establish written policies for evaluating the executive director.
- The board should be responsible for evaluating the executive director. Furthermore, all board members should have an opportunity to have input into the executive director's evaluation
- Performance evaluation criteria should not consist solely of subjective criteria, but also objective criteria.
- When properly designed and administered, 360 degree evaluations can be valuable elements of the executive director evaluation process.

Findings

1) ASRS's practices concerning the Director's performance evaluation are consistent with published standards in that it:
   - Evaluates the performance of the Director on an annual basis, utilizing both objective and subject criteria; and

[6] *CAPSA Governance Guidelines*, Principle #4: Performance Measures, page 7; and the *Clapman Report*, Principle B: A Fund's Leadership: the Governing Body and Executive Staff, page 7.

- Has documented the evaluation process in a board policy.
- Includes 360 degree evaluations.

Recommendations

We were informed that the Director is evaluated by parties other than the Board, and that the Human Resource Manager provides anonymous comments from such parties to the trustees to assist them in conducting their performance appraisal of the Director. We understand, however, that the current Director Evaluation Policy does not presently capture this practice. Though not necessarily widespread among public funds, we believe expanded performance evaluations of this nature are valuable, and would suggest ASRS amend its Director Evaluation Policy to require them.

APPENDIX A
INTERVIEW PARTICIPANTS

Board Members

- Mr. Dave Byers
- Mr. Thomas Connelly
- Mr. Chris Harris
- Professor Dennis Hoffman
- Mr. Tom Manos
- Mr. Michael Townsend
- Mr. Lawrence Trachtenberg (former board member)
- Mr. Steven Zeman

ARSRS Staff

- Mr. Paul Matson
- Mr. Gary Dokes
- Mr. Karl Polen
- Mr. David Underwood
- Mr. Al Alaimo

ASRS Consultants

- Allan Martin, NEPC (General Investment Consultant)
- Stephen McCourt, Meketa Investment Consulting (Private Equity Consultant)
- Gadi Kaufman, Robert Charles Lesser and Co. (Real Estate Consultant)

Others

Cortex also contacted representatives of the following public retirement systems:

- Ontario Teachers' Pension Plan
- Texas Teachers' Retirement System
- Public Sector Pension Investment Board
- Colorado PERA
- Massachusetts PRIM

New Governance Models Pay Off For Pensioners:
The American vs. Canadian Pension Fund Experience

By
Luis Navas
Vice Chair and Global Head, Global Governance Advisors
Brad Kelly
Director, Global Governance Advisors

The Fall of 2008 marked the beginning of some tough times for North American pension funds. Global and domestic markets crashed, assets depreciated, and funds were left with nowhere to hide. The result is that many funds reported significant losses in their overall portfolio in 2008 and 2009. Since then, many pension funds are currently underfunded and are struggling to regain their footing in today's shaky investment environment.

Robert Novy-Marx and Joshua D. Rauh's 2010 Journal of Finance paper, *Public Pension Promises: How Big Are They and What Are They Worth?*, reported that the 50 U.S. states collectively faced $3.2 trillion in pension obligations in 2009, but they only had $1.94 trillion set aside in state pension funds. The following year, the PEW Center released, *The Widening Gap*, a study that reported that 48 public sector state pension funds were underfunded in 2009. By 2011, the Organization for Economic Co-operation and Development (OECD) study, *Pension Markets in Focus*, reported that as of last year, U.S. funds were still cumulatively 3% below 2007 asset levels.

Compounding this problem even more is the fact that American demographers anticipate that there will be vast number of baby boomers on the cusp of retirement, within the very near future which could result in a significant demand for pension payouts. According to the U.S. Census Bureau, as of 2010, 13% of the U.S. population was age 65 and older, equating to 40.3 million Americans. It is estimated that this number will more than double to 89 million by 2050.

Overall, it is easy to see why so many pension funds are currently concerned about future sustainability.

Outsourced History

Pension funds have always been committed to meeting their pension promise, but historically played the role of an administrator rather than the role of an investor. The vast majority of today's American funds primarily manage the administrative functions related to member relations, contribution collection, and pension payouts and then outsource the majority of their investment responsibilities.

Investment management expertise in pension funds is rare due to the historical practice of outsourcing majority of this work to external, third-party, money managers. The end result of this practice is that funds have historically had an arm's length control over investment activities and pay out tremendous amounts in management fees related to the size of assets allocated to third party managers.

The common trend in the asset management industry is for funds to pay a 2% fee on the total amount of assets outsourced as well as a 20% performance fee on any returns that are above a preferred rate of return. For example, a large fund that regularly contract out management of $20 billion of assets to third-party investment managers will normally pay a minimum of $400 million in annual management fees regardless of whether the outside investment activities result in positive returns for pension members.

In 2011, Alexander Dyck and Lukasz Pomorski at the University of Toronto's Rotman School of Management, released a study entitled, *Is Bigger Better? Size and Performance in Pension Plan Management*. One of their conclusions is that funds that depend on external or passive management tend to spend more to realize similar returns to those who manage in-house. Their findings concluded that organizations that do not possess internal expertise tend to spend three times more for the external management of active assets and five times more for the external management of alternatives.

The Transformation Experience

Most public pension funds in the U.S. are managed within government and are often just an extension of the state treasurer or comptroller office. Boards of Directors of these funds are also commonly comprised of government bureaucrat appointees and elected politicians. In Canada, public pension funds are moving away from this historic management style and are taking a more progressive approach to money management.

Canada's earliest example began in the early 1990's where Ontario Teachers' Pension Plan (Teachers) made a conscientious decision to break from tradition and run its operation more like a business rather than a government agency. One of the first steps in its transformation was to alter its governance philosophy and aggressively recruit top ranked professionals from Canada's financial, government, and business sectors. The former President and CEO of Teachers, Claude Lamoureux, notes in his paper *Effective Pension Governance: The Ontario Teacher's Story* that he originally declined the CEO position but later accepted under the condition that he be allowed to run Teachers like a business. When asked by the Chairman, Gerry Bouey, what he meant by this, he responded with a list of items that included his intention that Teachers "would have a compensation plan that would be reasonably competitive and include incentives." Upon accepting the position, Lamoureax had board support for a new management philosophy which enabled him to immediately hire a Chief Investment Officer and then build up an internal investment team.

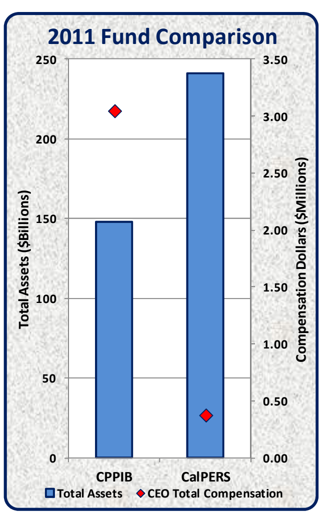
It is hard for stakeholders and Boards of Directors to embrace the understanding that higher compensation levels are required to attract and retain top talent. However, once Teachers' broke the barriers and began realizing the benefits, it did not take long for other Canadian pension funds such as the Canada Pension Plan Investment Board (CPPIB), Ontario Municipal Employees Retirement System (OMERS), Caisse de dépôt et placement du Québec (Caisse), and most recently Alberta Investment Management Co. (AIMCo) to follow.

During their transformations, each pension fund altered its governance philosophy, adopted market competitive compensation levels and incentive designs, recruited top talent, and internalized most, if not all, of their investment activity and expertise. As well, most of the transformed Canadian pension funds established strong teams of top investment professionals in strategic locations throughout the world and are now significant players in the world's M&A market. Over the last few years, these Canadian funds have successfully recruited professionals from London and New York and from organizations such as Goldman Sachs and Morgan Stanley which is most often unheard of within our U.S. pension market.

Competition for Talent

Establishing market competitive compensation was a key factor in the recruitment of talent. The gap for talent is clear when comparing the compensation within the two countries' (Canada and U.S.) largest pension funds – the California Public Employees' Retirement System (CalPERS) and CPPIB. In 2011 CalPERS had approximately $242 billion in total assets while CPPIB had $148 billion. Marc Lifsher, of the Los Angeles Times states in his article, *CalPERS awards $4.5 million in bonuses to managers*, that CalPERS' CEO, Anne Stausboll, received a base pay of $283,500 along with a bonus of $96,638 in 2011 which represents a total of $380,138 in received compensation. Comparatively, during that same year, CPPIB's annual report states that its President and CEO, David Denison, received a total of $3.05 million in salary and bonuses – approximately eight times larger than CalPERS.

As of the beginning of 2010 there were 11,677 private, state, local, and federal government pension funds throughout the country according to U.S. Census Bureau. If the Canadian transformation experience inspires U.S. pension funds to change their management approach, it is easy to see how demand for global investment talent could escalate as a result.



Realized Returns

Even with today's volatile investment environment, these Canadian pension funds are significantly benefitting from their new approach. The 2011 OECD study, *Pension Markets in Focus*, reported that their analysis showed that by the end of 2010, pension funds in most OECD countries had recovered from 2008 losses - Canadian pension funds are part of this group. Out of 29 select countries, Canadian pension funds were ranked 5th in overall returns while U.S. pensions fall well behind in 20th position. Part of this success should be attributed to the performance realized by Canada's transformed pension funds. In 2010 the average total pension return was 13.02% for the five transformed Canadian funds and by 2011 all five not only recovered from their 2008 and 2009 losses, but had surpassed their 2007 pre-crash asset levels.

By recruiting the expertise that they now have, transformed pension funds are not only saving significantly on management fees but are also repurposing their savings into additional investment opportunities. Janet McFarland's Globe and Mail article, *Canada's pension funds perform, at a cost*, notes that pension specialist Keith Ambachtsheer, director of the International Centre for Pension Management, supports this practice and claims that despite the higher salary costs in Canada, internal management has been a bigger advantage than it has been a cost. "OMERS, Teachers, CPPIB – they have all developed internal teams that are as good as anybody around the world in terms of assessing a project, pricing it, [and] doing risk analysis."

Savings aside, the new internal skill set has also enabled these funds to become major players in the global investment community at a time when governments around the world are looking for outside investors to help with asset and infrastructure costs. As stated in Pav Jordan and Andrea Hopkins' Financial Post article, *Canada's pension funds showing growing dominance*, "large, aggressive and patient, [transformed Canadian pension funds] are pushing into a financing vacuum that neither cash-strapped governments nor private equity alone can fill. Their power is a challenge to the world's biggest sovereign wealth funds and it is enabling the Canadians to take on the occasional role of activist investor."

Compensation and Incenting Performance

Considering the gap between public and private compensation practices, CalPERS lists a number of external equity managers that it currently uses. Of the list of six domestic companies, three are publicly listed. Their 2011 proxies note that in the previous year Richard Penza, CEO of Penza Investment Management made $1,392,737; James Kennedy, CEO and President of T. Rowe Price Group Inc. made $7,136,137; and James Dimon, Chairman and CEO of JP Morgan Chase & Co., made a cumulative total of $20,816,289. All three are a far cry from what CalPERS paid its CEO that same year. However, one could argue that CPPIB's CEO is at least at the table when it comes to competing with private sector compensation.

Furthering this gap, it is a general belief in the compensation advisory world that 10% of a person's base salary is the absolute bare minimum that can be used as an incentive. Our firm's observation is that anything below 10% is not substantial enough to incent positive changes in behaviour. Given that this is the bare minimum, it is not surprising to see that most public pension funds still espouse to follow public sector practices and offer incentives that are still relatively low in comparison to overall compensation levels and in some cases fall close to the 10% bare minimum.

Contrary to this, transformed Canadian pension funds have adopted stronger performance-based incentive plans that are much more in line with private sector practices. Claude Lamoureux, recounts the evolution and adoption of a new incentive design in his previously mentioned paper. He states that:

"The compensation program saw a number of changes over the years, but the basic principles were the same. The higher you were in the organization, the more your compensation depended on total results. People had to add value to be rewarded and this had to be sustained over time. Also, unlike many financial institutions, both our short-term and long-term incentives take into account several years of results. It is very important for the organization to get the right types of incentives."

The result is that all five of the transformed funds now have compensation plans that place far greater emphasis on incentive pay over base compensation. Similar to private sector practice, incentive levels in these organizations now make up 50 to 80% of executive total annual pay which acts as a significant motivator and further links pay with performance. Likewise, these pension funds not only instituted stronger annual incentive plans that better align with short-term objectives, they have also adopted long-term incentive plans that help to protect and strengthen the long-term sustainability demands for their pension members.

Will to Follow

Overall, the transformation of Canadian public pension funds has paid off and benefited Canadian pension members in a substantial way. Adopting private sector governance practices have enabled them to attract, retain and incent high performance talent within their respective organizations. Operating costs are lower and these funds are now regarded as highly esteemed players in the global investment community. Unfortunately, in many respects, most U.S. pension funds have lagged behind in their governance practices and as a result are falling behind in sustaining their pension promise. Fortunately, as the Canadian experience has shown, even in today's volatile investment environment, changes in organizational governance can definitely lead to strong rewards, higher returns and strengthened sustainability for today's' struggling pension funds. If U.S. pension funds wish to meet their members' future pension demands, they need to become competitive players in the world's financial community. If smaller Canadian pension funds have successfully accomplished this, certainly our U.S. public pension funds should have the capacity and the will to follow.

IMD Investment Beliefs

FRAME OF REFERENCE

The ASRS has developed the following *Investment Beliefs* in order to ensure the development of congruent and synergistic investment strategies, and to ensure the effective and efficient allocation of resources.

These *Investment Beliefs* determine the general paradigm within which investment strategies are developed, investment ideas are reviewed, and investment decisions are implemented.

Modifications to these *Investment Beliefs* will occur if expectational, academic, experiential, historic, and/or statistical perspective suggests that a superior belief system exists.

INVESTMENT BELIEFS

1. Asset Class Decisions are Key

The Investment Management Division (IMD) believes that in general, decisions with respect to what asset classes and sub-asset classes to invest in, and the allocations to these asset classes and sub-asset classes, have a greater impact on total fund investment returns than decisions in which specific securities to invest.

2. Theories and Concepts should be Sound

IMD believes that over longer periods of time, investment outcomes (rates of return) conform to logical theories and concepts. We believe that significant deviations from theoretically and conceptually sound investment constructs (such as the internet bubble or the pre-subprime erosion of risk premiums) are usually not sustainable.

3. House Views should be Developed

IMD believes that the development and articulation of sound House Views (such as perspectives on interest rates, corporate spreads, and security pricing) will ensure consistency among investment decisions, clarity of investment direction, baselines for debates, and conformity of understanding.

4. Investment Strategies should be Forward Looking

IMD believes that investment strategies should be developed based upon forward looking insights (rather than simply successful strategies of the past).**Information Universes are Multiple**

IMD believes that asset class valuations and security valuations are significantly affected by endogenous outcomes (such as earnings, GDP growth rates, and competitive barriers) that are probabilistic; and that these outcomes are typically analyzed well by the investment industry.

IMD believes that asset class valuations and security valuations are also significantly affected by random outcomes (such as natural disasters, and certain supply and demand shocks) that are virtually unpredictable; and that these outcomes are typically not analyzed directly by the investment industry.

IMD believes that asset class valuations and security valuations are also significantly affected by exogenous outcomes (such as foreign policies, and global cultural interactions) that can possibly be modeled; and that these outcomes are typically not analyzed by the investment industry.

5. Markets are Generally Informationally Efficient

Asset Class Valuations

IMD believes that asset class valuations (for instance stock market levels versus interest rate levels) are often in equilibrium with one another, but that anomalous situations do occur which result in disequilibria between asset class valuations. These disequilibria may offer valuable investment opportunities.

Security Valuations

IMD believes that security valuations (for instance IBM versus Cisco) are often in equilibrium with one another, but that anomalous situations do occur which result in disequilibria between security valuations. These disequilibria may offer valuable investment opportunities.

IMD believes that the extent of market informational efficiency varies across asset classes.

6. Market Frictions are Relevant

IMD believes that market frictions (such as including management fees, carried interest, revenue sharing, expenses, costs, transaction spreads, market impacts, taxes, and commissions) are known with greater certainty than expected returns and are significantly detrimental to investment performance.

IMD believes that investments and/or transactions should be initiated only to the extent that there is a strong level of conviction that they will result in increased investment returns or decreased risks net of market frictions.

7. Internal Investment Professionals are Beneficial

IMD believes that an in-house investment management operation that is engaged in internal portfolio management results in better investment decision making for the ASRS.

IMD believes that in-house investment personnel are more closely aligned with the purpose of the ASRS than most external parties.

IMD believes that in-house investment personnel have a greater understanding of the risk and reward tolerance of the ASRS than most external parties.

IMD believes that at the margin in-house investment personnel can impact direct investment negotiations with vendors, as well as influence investment industry conditions (such as private deal structures and public and private fee levels).

8. External Investment Management is Beneficial

IMD believes that external investment organizations can often offer greater expertise and/or greater resources and/or greater flexibility than internal personnel for various investment strategies.

9. Investment Consultants

IMD believes that investment consultants can and should be effectively utilized in the following four general categories, and that utilization of consultants should be focused on situations where there is a demonstrable need in at least one of the four areas:

- Independence: When ASRS' protocols or checks & balances can be enhanced
- Perspective: When ASRS' comparative understanding can be enhanced
- Special Skills: When IMD's skills can be enhanced
- Resource Allocation: When IMD's resources can be enhanced

10. Trustee Expertise

IMD believes that Trustees often have expertise in various areas of investment management and that this expertise should be utilized.

Caveat Statement

PERSONNEL & PROCESS CAPABILITY

The ASRS may be somewhat limited in its ability to maintain or enhance IMD's capability due to state budgetary constraints, the state personnel classification system, the state procurement process, and state administrative processes.